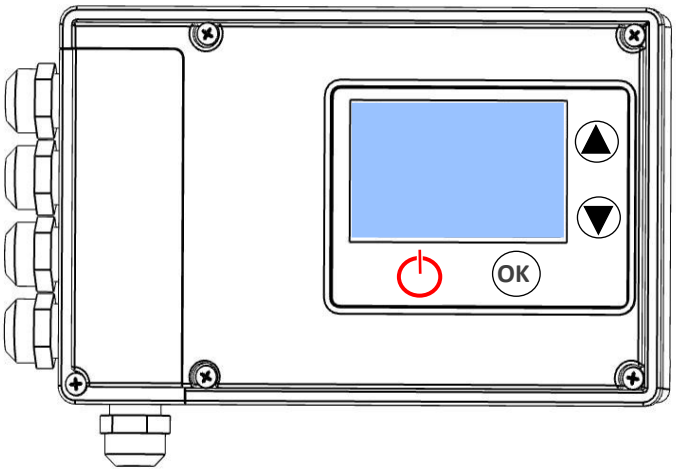
HIPER II
HEAT INTERFACE UNIT

User interface and Maintenance



Relevant Hiper II HIU documents.

1. Installation and Operating Manual (included with the HIU)
2. **User interface and Maintenance. (this document)**
3. Commissioning report (included with the HIU)
4. Programming Guide (Only available to the approved and qualified commissioning or service engineers.

Annual servicing is required to ensure that the conditions of the warranty are met.
This guide details the maintenance regime that should be carried out annually. It is the responsibility of the network operator to ensure this is met to honour the conditions of the warranty.

V4 Hiper II Single Plate Heat Interface Unit
Instantaneous hot water

In this document Inta have endeavoured to make all the information and procedures accurate. Inta cannot accept responsibility should it be found that in any respect the information is inaccurate or incomplete as a result of future developments.

inta

User information menu

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For the user to view only the settings the HIU must be in standby mode, and not hot water modes (producing hot water).

HOLD THE OK BUTTON DOWN FOR OVER 3 SECONDS.

First on the screen will be the DHW set Temperature.

1. 

Hot Water
Factory set = 55 °C

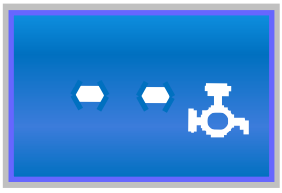
The set temperature is flashing, change with the up and down arrow buttons, press OK

2. 

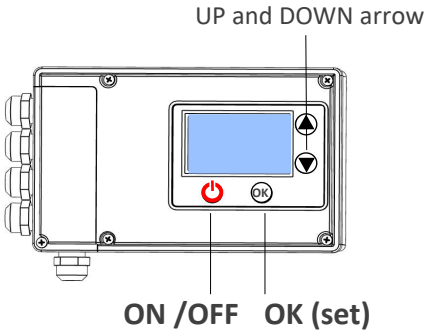
Screen shows Date, (flashing) press OK to confirm.

3. 

Screen shows time, (flashing) press OK to confirm.

4. 

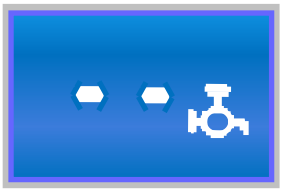
After confirming the time, the unit will then return to standby mode.



Operation

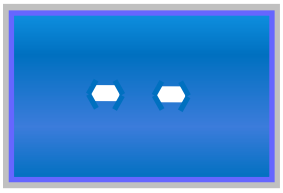
UP and DOWN buttons - use to increase or decrease a value or number.
OK button - to confirm and set a value or number.
ON / OFF button will turn off the HIU.
The unit will not be in standby mode.
Heating, hot water, keep warm and frost protection functions are OFF.

HIU controller screen display shows the HIU is ready for Operation and in standby mode.



The screen also shows the symbol for Keep Warm function ON.

HIU controller screen display shows the HIU is ready for Operation and in standby mode.
.
With Keep Warm function OFF.



Re-programming shall only be allowed by the network operator.

User information

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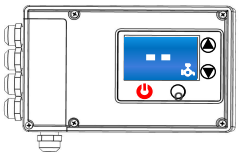
Symbols used on the controller screen.

	Hot Water
	Keep warm mode on

	Optimised function
	Keep warm mode on
	Change settings mode

	ERROR warning
	Prepayment out of credit!



Programming the HIU Controller

Any changes to the factory settings should be carried out during commissioning.
Details of programming parameters are to be found in the **Controller Programming Guide.**

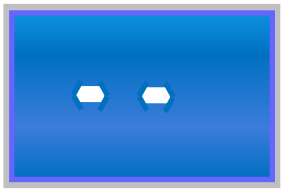
This document is only to be used by the commissioning or service engineer and not to be left with the HIU or the occupier of the home!

Features and operational options of the Hiper II heat interface unit.

- Keep warm function switch ON or OFF.
- Temperature control of primary return when in keep warm mode.
- Anti-Legionella pasteurisation temperature and timed function when used with storage cylinder.
- Prepayment operation and shutting down of the HIU when out of credit.
- Manual mode for the PICV actuator.
- Language options.

Prepayment

The HIU can be configured for pre-payment billing, (sometimes called Pay as You Go - PAYG).



Screen shows ‘in credit’ and is ‘in standby’.

Screen shows ‘out of credit’ .
Heating and hot water are not available.

All hot water and heating services are pre-paid to the billing company managing this property.

The tenant or home owner pays for heat as used to make hot water and measured by the heat meter in the HIU. Here the screen alternates approximately every 8 seconds between the CREDIT ON display, and the standby screen.
Hot water is available on demand.

Should the tenant or home owner fall out of credit, then the billing system will at some stage (according to policy) send a signal to the HIU to shut down.
The screen shows CREDIT OFF.
Hot water will not be available until the payment is made to the billing company at which point a signal will be sent to the HIU, allowing it to resume hot water on demand.

User information - Fault and Error codes

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Diagnostics - Fault code definitions.

When a fault occurs the relevant code will be displayed on the controller screen.
Fault codes inform that the controller has diagnosed a fault in one of the HIU's components.

code	Cause	Effect	Remedy
F0	DHW temperature sensor is short circuit or broken circuit, or disconnected	The HIU will not operate in DHW demand. It will still operate in heating demand mode.	Check that the sensor cable plug connection is good, and if OK then check the connection inside the controller. If this doesn't clear the F0 code, then replace the sensor. The F0 will clear and return to normal operation.
F1	Primary flow temperature sensor is short circuit or broken circuit, or disconnected.	The HIU will not operate in DHW or heating demand. Without information of the primary temperature in, the controller can not function.	Check that the sensor cable plug connection is good, and if OK then check the connection inside the controller. If this doesn't clear the F1 code, then replace the sensor. The F1 will clear and return to normal operation.
F2	DHW storage tank temperature sensor is short circuit or broken circuit, or disconnected.	The controller disconnects the control of a optional hot water cylinder and all it's parameters.	Check that the sensor cable plug connection is good, and if OK then check the connection inside the controller. If this doesn't clear the F2 code, then replace the sensor. The F2 will clear and return to normal operation.
F4	Primary return temperature sensor is short circuit or broken circuit, or disconnected.	The HIU 'keep warm' function is disabled as this sensor controls the DHW PHE temperature during periods of non-use. Also efficiency is reduced as there is no control of the primary return temperature DHW and Heating are both still operational.	Check that the sensor cable plug connection is good, and if OK then check the connection inside the controller. If this doesn't clear the F4 code, then replace the sensor. The F4 will clear and return to normal operation.
F6	It is a notification that unexpected fluctuations in the return temperature have been monitored during hot water production. Probable cause is the network supply to the HIU.	The F6 error code is a notification that this is unusual. F6 will reset back to normal operation after 60 seconds.	Check the network supply temperature and flow and remedy. If F6 persists, then do a factory reset (parameter 00). This will recalibrate the PICV actuator. Check DHW sensor is in the correct position. Check with a manual operation of the PICV. Set this on parameter 91. If not working, replace the PICV actuator as a last resort.

Diagnostics - Error code definitions.

When an error code is seen, the controller is warning of unsuitable operating conditions that may be causing the HIU to operate inefficiently or possibly not at all. Also could be an potential operating conditions that could if left in that state become a safety issue

code	Cause	Effect	Remedy
E1	The measured primary temperature is lower than the set point temperature is for heating or hot water, so the HIU will not be able to achieve the set temperature, this is after 60 seconds of flow.	The function is re-enabled when the primary exceeds the setpoint temperature.	Remedy? Check the set point in the controller, adjust is the set point is set higher than the design supply temperature. Check that the primary temperature probe is correctly connected to the primary pipe. When the primary temperature and set point are aligned, the error code E1 automatically disappears.
E3	The controller is recognising that the HIU performance is not as the algorithm predicts. The energy transfer is poor.	Heat transfer is inefficient, hot water production reduced and temperature control unstable.	If signs of blockage it could be the strainer is blocked or the PHE is partially blocked with lime scale. Check PICV fully open – check flow on the heat meter, low flow now would prove a blockage of some sort is the issue.
E4	No hot water	The controller has detected that the hot water temperature control behaviour is consistent with the sensor being in the wrong position, and shut down hot water production as a safety precaution. The HIU will automatically rest after 10 minutes, but repeat the shutdown again if the issue is not resolved.	Check DHW temperature sensor position is correct. Reposition. Then system reset, turn off the power at the supply, and then turn on again to allow the PICV actuator to re-calibrate its position.

Maintenance

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Annual servicing is required to ensure that the conditions of the warranty are met.

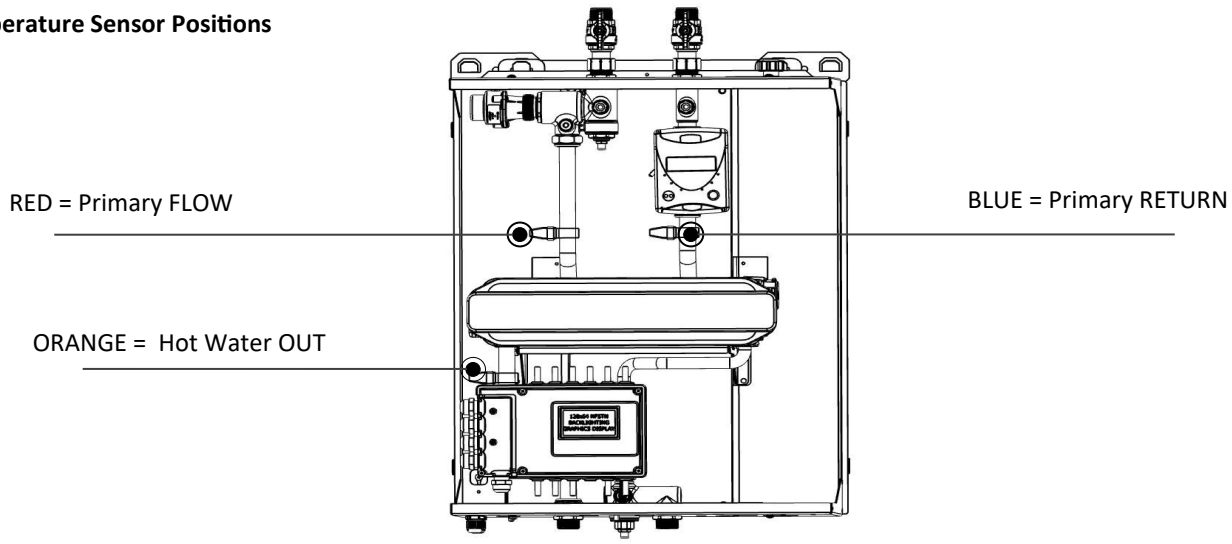
Record the Heat network design flow temperature °C		Record the Heat network design temperature M^3/hr	

Ref	**Checklist - Maintenance**	✓	**Remarks /Notes**
1	Turn off all HIU Isolation valves.		
	Isolate the electrical supply to the HIU at the fused spur switch.		
	Drain the Primary side pipework of the HIU.		
	If leaving the installation while maintenance is in progress notices should be placed accordingly to prevent others from interfering with equipment and valves.		
2	Inspect STRAINER on the HIU Primary side flow. REMOVE CAP, REMOVE MESH, CLEAN AND REPLACE. Sample the Primary water chemical composition and check against specification. Report any abnormalities to the Building manager immediately.		
3	DRAIN the HIU secondary heating circuit using the built in drain valves. See page 5 for of strainers (position 2).		
4	Check all strainers, including filters fitted on the cold water mains supply. This may also include Pressure Reducing Valves with integral strainer cartridges. Always isolate any components before maintenance.		
5	Central Heating side of the HIU - check the safety valve discharges by twisting the cap. Check the safety valve re-seats and seals.		
6	Central Heating side of the HIU - check the expansion vessel pressure and adjust or recharge to 0.75 bar.		
7	PLATE HEAT EXCHANGERS - MAINTENANCE Special attention should be given to the plate heat exchangers, recent reported loss of performance may be caused by dirty or blocked plates (lime scale). After cleaning (or replacing) refit both plate heat exchangers. .		
8 9	Check all drain valves are closed, open isolation valves and REFILL (secondary and primary), check for leaks and vent air from the systems. Check all the temperature sensors are in their correct positions and securely clamped onto the pipes.		
10	If you are satisfied that all is correct, replace the casing securely.		
11	Power up the HIU, and let the automatic diagnostics run the initial check. The HIU should then go immediately to the standby mode. If by chance a fault code appears, the this should be attended to immediately. Note this in the service record.		

Maintenance

12	Network supply test. Run a Kitchen tap, and record the time the network supply reaches the HIU at the design temperature (noted on page 17)	
13	Network supply test. During action 12, note the flow as can be seen on the heat meter and record this. Check this is adequate for the design peak flow expectations	
14	Tapping Test. Open the kitchen tap, and record the time at the tap for the hot water to reach 50C. This should conform to BS 8558. If not look again at 12 and 13, is the supply adequate?	
15	Heating check. Run the heating, and record the flow and return temperatures. Record these are correct as per the design requirements.	
16	Sign and complete the Service Record (as found in the User Guide	

Temperature Sensor Positions



SERVICE DATE
Engineer name Company
Phone
Comments   Signed

SERVICE DATE
Engineer name Company
Phone
Comments   Signed

Annual Service Record

Enter contact company name and number here for maintenance calls

SERVICE DATE
Engineer name Company
Phone
Comments Signed

SERVICE DATE
Engineer name Company
Phone
Comments Signed

SERVICE DATE
Engineer name Company
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SERVICE DATE
Engineer name Company
Phone
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Name of Installation Company

Name of Commissioning Services Company

Date commissioned

Confirm the HIU has been registered and the warranty activated

YES ☐ **NO** ☐

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